

MULTIMEDIA



UNIVERSITY

STUDENT IDENTIFICATION NO

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MULTIMEDIA UNIVERSITY

FINAL EXAMINATION

TRIMESTER 1, 2015/2016

BSM3024 – STRATEGIC KNOWLEDGE MANAGEMENT
(All sections / Group)

12 OCTOBER 2015
9:00 a.m. – 11:00 a.m.
(2 Hours)

INSTRUCTIONS TO STUDENT

1. This Question paper consists of 4 pages with 9 Questions only.
2. Attempt **ALL** questions in Section A and B. The distribution of the marks for each question is given.
3. Please write all your answers in the Answer Booklet provided.

SECTION A (60 MARKS)

STMicroelectronics is a global leader in semiconductors. It is the largest European company in its field. It has existed since 1987, after a merger between the Italian company SGS Microelettronica and the French company THOMSON Semiconductor. The IT department at *STMicroelectronics* has opted for a *Wiki* for knowledge sharing, called *Stiki*. *Stiki* has currently 240 registered users belonging not only to the Manufacturing Solutions Group but also from other teams (internal architecture, business intelligence, production systems and automation, etc.), with an administrator who is frequently changed, where 48 per cent of them are searching in *Stiki* and 71 per cent made revisions to existing content at least once.

To launch the official department wide use of *Stiki*, first, a working group was established only with the launcher of *Stiki* and the assigned administrator, to test it and create first pages. Next, another larger working group was made of one person of each team (managers because they are responsible for communication within their teams) to discuss the desired content to add in *Stiki* according to their needs. Therefore, some templates were proposed to guide the users' contributions. Finally, a public meeting was held, during which a presentation of the tool and its use took place. Moreover, during its use, teams' evolution and internal reorganizations were also a way to expand the scope of application of *Stiki*. For example, an employee from the team "IT Manufacturing Execution Systems" was transferred to the team "Capacity & Equipment Productivity", where *Stiki* was not known. She proposed then its use.

Stiki's content targets two types of use: a public use (*main* part) for all *STMicroelectronics* employees and a private use (*support* part) for IT support team only. When asking users to assign a level of consistency, relevance and utility for knowledge stored in *Stiki*, more than 75 per cent of them confirm having confidence in stored knowledge and believe that it is relevant, useful, updated and slightly obsolete. The relevance of information is very important to ensure the usefulness of *Stiki*. An interviewee said "We need to monitor knowledge update to ensure that it will not become obsolete", especially in semiconductors' manufacturing field, where products change regularly and data can quickly become obsolete. Despite this, some interviewees point out some inconsistencies in *Stiki* knowledge and claim for regular updating and monitoring. In addition, current version of *Stiki* dates for five years ago. Since this version, several features have been integrated in *MediaWiki* package. Content quantity and content structuring are generally less studied despite their importance.

To launch the official department wide use of *Stiki*, a meeting was held, during which a presentation of the tool and its use took place. This meeting was the only one since its implementation. Several users of *Stiki* have not assisted for many reasons. One of the guides that the administrator has joined to *Stiki* is the structure in the form of templates. This structure was also introduced at the meeting launching the activity of *Stiki* but nevertheless, when asked if the users know it, 50 per cent of users do not. Yet, the majority is confronted to use *Stiki* regularly. Some make the effort to learn and others use it in their own way.

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Adopted from: Brichni, M., Mandran, N., Gzara, L., Dupuy-Chessa, S., & Rozier, D. (2014). Wiki for knowledge sharing, a user-centred evaluation approach: a case study at STMicroelectronics. *Journal of Knowledge Management*, 18(6), 1217-1232.

Based on the above case, answer the following questions:

1. Explain **SIX (6)** problems associated with the adoption of *Stiki* in STMicroelectronics. (12 marks)
2. Suggest solution to each of the **SIX (6)** problems identified in Question 1. (12 marks)
3. Italian company SGS Microelettronica merged with the French company THOMSON Semiconductor. Identify **SIX (6)** problems associated with the merger. (12 marks)
4. Explain **THREE (3)** reasons that drive STMicroelectronics to expand their business internationally. Describe **THREE (3)** local adaptations which are needed during international expansion. (12 marks)
5. Suggest **THREE (3)** types of strategic alliances that STMicroelectronics can form with other semiconductor companies. (12 marks)

(Total: 60 marks)

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SECTION B (40 MARKS)

The intellectual capital of a company is the combination of the personal knowledge of its employees and the organizational knowledge that is not affected by personnel changes. Organizational knowledge is the retrievable, reusable and shared intellectual assets of the corporation such as processes, methodologies, best practices, patents, models, software, business know-how, etc. It represents a significant portion of the non-tangible assets of the corporation. Most companies recognize the strategic importance of their intellectual capital and spend a considerable amount of resources collecting, storing and protecting these assets. However, only a fraction of the collected information and knowledge is utilized or reused effectively. On average, American corporations analyse only 7% of the information they collect or generate.

There are many road blocks in transforming personnel knowledge into organizational knowledge and in utilizing organizational knowledge effectively. The following provides examples of some of these road blocks.

1. *Culture barriers for sharing knowledge* – Examples include the ‘not invented here’ syndrome, insecurity about the quality of other people’s work, the unwillingness to invest in understanding the work of others, and the insecurity of sharing knowledge with others.
2. *The information quality barrier* – This problem is created by the high noise-to signal ratio of non-essential content in knowledge repositories and the lack of quality measurement for the information. This problem is particularly serious when the knowledge base of a corporation is growing. It may have a significantly negative impact on the sharing or growth of organizational knowledge. The value that a knowledge management process creates is only as good as the in-flow data quality, i.e., garbage in, garbage out. In the real world, data may have been collected in an *ad hoc* fashion; unfilled fields in records will invariably be found; mistakes in data entry are quite common; data from different databases becomes out of sync over time, etc. As a result, the knowledge management process cannot succeed without serious effort to ensure the quality of data.
3. *The technology barrier* – It is usually difficult to find or retrieve the appropriate knowledge for reuse. Most employees don’t know where, when, or how to find and reuse the intellectual capital of the corporation. Technology can ease this process. It is critical for lowering barriers and encouraging knowledge reuse. The traditional document management systems usually stores documents in some kind of database. They require manual indexing of each document before loading into the database. As a result, most new documents will not be immediately available due to the long laborious indexing process. The retrieval of the documents also poses quite a challenge to the users. Somehow, they need to know the exact key of the document to be retrieved.

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In order to help users, these systems generally provide some sort of catalogue with an abstract to overcome this major hurdle, which, in turn, takes quite a bit of time and further delays the availability of the new documents. The emphasis of the traditional systems is on the efficient storage of documents rather than on the retrieval. Consequently, the benefit of the traditional document management system is not as pronounced as one would expect.

Adopted from: Hu, J., Huang, K. T., Kuse, J., Su, G. W., & Wang, K. Y. (1997). Customer information quality and knowledge management: a case study using knowledge cockpit. *Journal of Knowledge Management*, 1(3), 225-236.

Based on the above case, answer the following questions:

6. Discuss how strategic flexibility will assist companies in transforming personnel knowledge into organizational knowledge. (10 marks)
7. Identify the general environment barrier OR barrier(s) from the above case. (12 marks)
8. Explain **SIX (6)** responsibilities of a strategic leader in resolving knowledge management barriers. (12 marks)
9. Identify the different roles of a data controller, data subject and information commissioner in resolving information quality barrier, as specified by Data Protection Act. (6 marks)

(Total: 40 marks)

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